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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/677,309	10/03/2003	Tetsuo Suzuki	243579US0X	9488
22850	7590	11/09/2006	EXAMINER	
C. IRVIN MCCLELLAND OBLON, SPIVAK, MCCLELLAND, MAIER & NEUSTADT, P.C. 1940 DUKE STREET ALEXANDRIA, VA 22314			ARANCIBIA, MAUREEN GRAMAGLIA	
			ART UNIT	PAPER NUMBER
			1763	

DATE MAILED: 11/09/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Advisory Action</b> <b>Before the Filing of an Appeal Brief</b>	Application No. 10/677,309	Applicant(s) SUZUKI ET AL.	
	Examiner Maureen G. Arancibia	Art Unit 1763	

**--The MAILING DATE of this communication appears on the cover sheet with the correspondence address --**

THE REPLY FILED 16 October 2006 FAILS TO PLACE THIS APPLICATION IN CONDITION FOR ALLOWANCE.

1. ☒ The reply was filed after a final rejection, but prior to or on the same day as filing a Notice of Appeal. To avoid abandonment of this application, applicant must timely file one of the following replies: (1) an amendment, affidavit, or other evidence, which places the application in condition for allowance; (2) a Notice of Appeal (with appeal fee) in compliance with 37 CFR 41.31; or (3) a Request for Continued Examination (RCE) in compliance with 37 CFR 1.114. The reply must be filed within one of the following time periods:

- a) ☒ The period for reply expires 3 months from the mailing date of the final rejection.  
b) ☐ The period for reply expires on: (1) the mailing date of this Advisory Action, or (2) the date set forth in the final rejection, whichever is later. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of the final rejection.

Examiner Note: If box 1 is checked, check either box (a) or (b). ONLY CHECK BOX (b) WHEN THE FIRST REPLY WAS FILED WITHIN TWO MONTHS OF THE FINAL REJECTION. See MPEP 706.07(f).

Extensions of time may be obtained under 37 CFR 1.136(a). The date on which the petition under 37 CFR 1.136(a) and the appropriate extension fee have been filed is the date for purposes of determining the period of extension and the corresponding amount of the fee. The appropriate extension fee under 37 CFR 1.17(a) is calculated from: (1) the expiration date of the shortened statutory period for reply originally set in the final Office action; or (2) as set forth in (b) above, if checked. Any reply received by the Office later than three months after the mailing date of the final rejection, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### NOTICE OF APPEAL

2. ☐ The Notice of Appeal was filed on \_\_\_\_\_. A brief in compliance with 37 CFR 41.37 must be filed within two months of the date of filing the Notice of Appeal (37 CFR 41.37(a)), or any extension thereof (37 CFR 41.37(e)), to avoid dismissal of the appeal. Since a Notice of Appeal has been filed, any reply must be filed within the time period set forth in 37 CFR 41.37(a).

#### AMENDMENTS

3. ☐ The proposed amendment(s) filed after a final rejection, but prior to the date of filing a brief, will not be entered because  
(a) ☐ They raise new issues that would require further consideration and/or search (see NOTE below);  
(b) ☐ They raise the issue of new matter (see NOTE below);  
(c) ☐ They are not deemed to place the application in better form for appeal by materially reducing or simplifying the issues for appeal; and/or  
(d) ☐ They present additional claims without canceling a corresponding number of finally rejected claims.

NOTE: \_\_\_\_\_. (See 37 CFR 1.116 and 41.33(a)).

4. ☐ The amendments are not in compliance with 37 CFR 1.121. See attached Notice of Non-Compliant Amendment (PTOL-324).  
5. ☐ Applicant's reply has overcome the following rejection(s): \_\_\_\_\_.  
6. ☐ Newly proposed or amended claim(s) \_\_\_\_\_ would be allowable if submitted in a separate, timely filed amendment canceling the non-allowable claim(s).  
7. ☒ For purposes of appeal, the proposed amendment(s): a) ☐ will not be entered, or b) ☒ will be entered and an explanation of how the new or amended claims would be rejected is provided below or appended.

The status of the claim(s) is (or will be) as follows:

Claim(s) allowed: \_\_\_\_\_.

Claim(s) objected to: \_\_\_\_\_.

Claim(s) rejected: 1-13.

Claim(s) withdrawn from consideration: \_\_\_\_\_.

#### AFFIDAVIT OR OTHER EVIDENCE

8. ☐ The affidavit or other evidence filed after a final action, but before or on the date of filing a Notice of Appeal will not be entered because applicant failed to provide a showing of good and sufficient reasons why the affidavit or other evidence is necessary and was not earlier presented. See 37 CFR 1.116(e).  
9. ☐ The affidavit or other evidence filed after the date of filing a Notice of Appeal, but prior to the date of filing a brief, will not be entered because the affidavit or other evidence failed to overcome all rejections under appeal and/or appellant fails to provide a showing of good and sufficient reasons why it is necessary and was not earlier presented. See 37 CFR 41.33(d)(1).  
10. ☐ The affidavit or other evidence is entered. An explanation of the status of the claims after entry is below or attached.

#### REQUEST FOR RECONSIDERATION/OTHER

11. ☒ The request for reconsideration has been considered but does NOT place the application in condition for allowance because:  
See Continuation Sheet.  
12. ☐ Note the attached Information Disclosure Statement(s). (PTO/SB/08) Paper No(s). \_\_\_\_\_.  
13. ☐ Other: \_\_\_\_\_.

*Maureen G. Arancibia*

*pt*  
**PARVIZ HASSANZADEH**  
**SUPERVISORY PATENT EXAMINER**

Continuation of 11. does NOT place the application in condition for allowance because: Applicant's arguments filed 16 October 2006 have been fully considered but they are not persuasive.

In response to Applicant's arguments against the references individually; specifically that Lawrence alone or Falster et al. alone do not teach the claimed method, one cannot show nonobviousness by attacking references individually where the rejections are based on combinations of references. See *In re Keller*, 642 F.2d 413, 208 USPQ 871 (CCPA 1981); *In re Merck & Co.*, 800 F.2d 1091, 231 USPQ 375 (Fed. Cir. 1986).

In regards to Applicant's argument that Lawrence teaches away from the claimed invention, the Examiner must disagree. That Lawrence teaches a different way for removing impurities from a wafer, even that Lawrence teaches what Lawrence believes to be the best way ("to maximize purifying effectiveness;" Column 4, Lines 21-22) does not mean that Lawrence teaches away from the claimed invention. To make such an argument is again to only attack Lawrence individually where the rejection is based on the combination of Lawrence and Falster et al. The Examiner asserts that one of ordinary skill in the art, informed by Falster et al.'s teaching that a heating / removal process comprising heating the silicon wafer at 100-300 C for a preferred time of several to several tens of minutes up to about 1.5 hours (Column 3, Line 61 - Column 4, Line 10) diffuses copper to the surface of the silicon wafer without the undesirable copper precipitates that form when the heating is performed at higher temperatures (Column 2, Line 67 - Column 3, Line 50) would have been motivated with a reasonable expectation of success to modify the method as taught by Lawrence to use the heating/removal process taught by Falster et al.

In response to Applicant's argument that the examiner's conclusion of obviousness is based upon improper hindsight reasoning, it must be recognized that any judgment on obviousness is in a sense necessarily a reconstruction based upon hindsight reasoning. But so long as it takes into account only knowledge which was within the level of ordinary skill at the time the claimed invention was made, and does not include knowledge gleaned only from the applicant's disclosure, such a reconstruction is proper. See *In re McLaughlin*, 443 F.2d 1392, 170 USPQ 209 (CCPA 1971).

In response to Applicant's argument that there is no suggestion to combine the references, the Examiner recognizes that obviousness can only be established by combining or modifying the teachings of the prior art to produce the claimed invention where there is some teaching, suggestion, or motivation to do so found either in the references themselves or in the knowledge generally available to one of ordinary skill in the art. See *In re Fine*, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988) and *In re Jones*, 958 F.2d 347, 21 USPQ2d 1941 (Fed. Cir. 1992). The Examiner's position regarding the motivation for combining the references was set forth in the final rejection mailed 14 July 2006.

In response to Applicant's argument that the claimed immersion process promotes the outer diffusion of Cu during the heat treatment, as well as Applicant's description of other advantages of the claimed reclamation method enumerated on Page 11 of the arguments, the fact that Applicant has recognized another advantage which would flow naturally from following the suggestion of the prior art cannot be the basis for patentability when the differences would otherwise be obvious. See *Ex parte Obiaya*, 227 USPQ 58, 60 (Bd. Pat. App. & Inter. 1985).

In response to Applicant's argument that the heat-treatment step of Falster et al. is positioned after the polishing, in comparison to Applicant's claimed method wherein the heat-treatment is done before the polishing, the Examiner responds that again, this is only to attack the teachings of Falster et al. individually where the rejection is based on the combination of primary reference Lawrence and Falster et al. Lawrence teaches the correct ordering of steps, while Falster et al. is cited only for the teaching of the particular process settings of the heat-treatment step.

In response to applicant's argument that the references fail to show certain features of applicant's invention, it is noted that the features upon which applicant relies (i.e., that using an SC2 cleaning solution is not effective) are not recited in the rejected claim(s). Although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993). In fact, the opposite scenario exists, wherein Applicant actually recites the purportedly ineffective SC2 cleaning solution in the claims (Claim 6; "a mixed solution of a hydrogen peroxide aqueous solution, hydrochloric acid, and water"). The Examiner also notes that the reference of Linn et al. is relied on for the teaching of a chemical immersion process, not Falster et al.

Finally, in regards to Applicant's argument against the rejection of Claims 4, 6, and 9-13 under 35 U.S.C. 112, second paragraph, the Examiner notes and understands Applicant's argument that the term "alkali" as recited in the claims is intended to refer to basic compositions, which may also include "alkali metals" such as potassium and sodium. However, the Examiner maintains the rejection, again observing that Claims 4, 6, 9, 12, and 13 each recite "alkali hydroxide(s)." This phrase is very confusing, since if "alkali" were to be interpreted as "basic," as Applicant asserts, rather than as a reference to the "alkali metals," the phrase "alkali hydroxide" would appear to be redundant -- i.e. a hydroxide would already be basic, and would not need to be described as "alkali." Also, the enumeration of various alkali metal hydroxides in Claim 13 also makes the use of the term "alkali" very unclear. The Examiner maintains that Claims 4, 6, and 9-13 are indefinite for failing to particularly point out and distinctly claim the subject matter which Applicant regards as the invention, since one of ordinary skill in the art would not understand which ordinary and customary meaning to attribute to the term "alkali" as recited in the claims.